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D I G E S T

Vol. 3 - No. 9

June 1937

REGION TEN
CALIFORNIA-NEVADA NEWSLETTER
Issued at Santa Paula, California

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service

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PROVIDING WATER FOR WILDLIFE

By Floyd H. Wymore, Regional Biologist

Water in some form is necessary for the welfare of quail and other game species throughout the year. During the season of the year in which succulent green vegetation is available for food practically no other source of water supply is necessary for many of our smaller wildlife species. If free water is necessary at this season, it is very often obtained by sipping the dew from the plant foliage. In much of the territory within the California-Nevada Region the vegetation begins to dry up in early summer and during the hot dry summer months quail and other wildlife species are forced to migrate in to territory adjacent to some annual water supply. This often results in over-population of these favored areas and considerable competition for food in the area about the water hole.

The California State Fish and Game Commission have been successful in supplying quail and other birds with drinking water, through artificial means, on several game refuges in Southern California. Various Soil Conservation Service cooperators, likewise, have supplied water to their farm-game through such methods as tapping in to a water main or by placing supply tanks at convenient places adjacent to escape cover, such as shrubs and vines, about the ranch.

The illustrations shown below are suggestive of different devices that may be adapted to farm or refuge service.

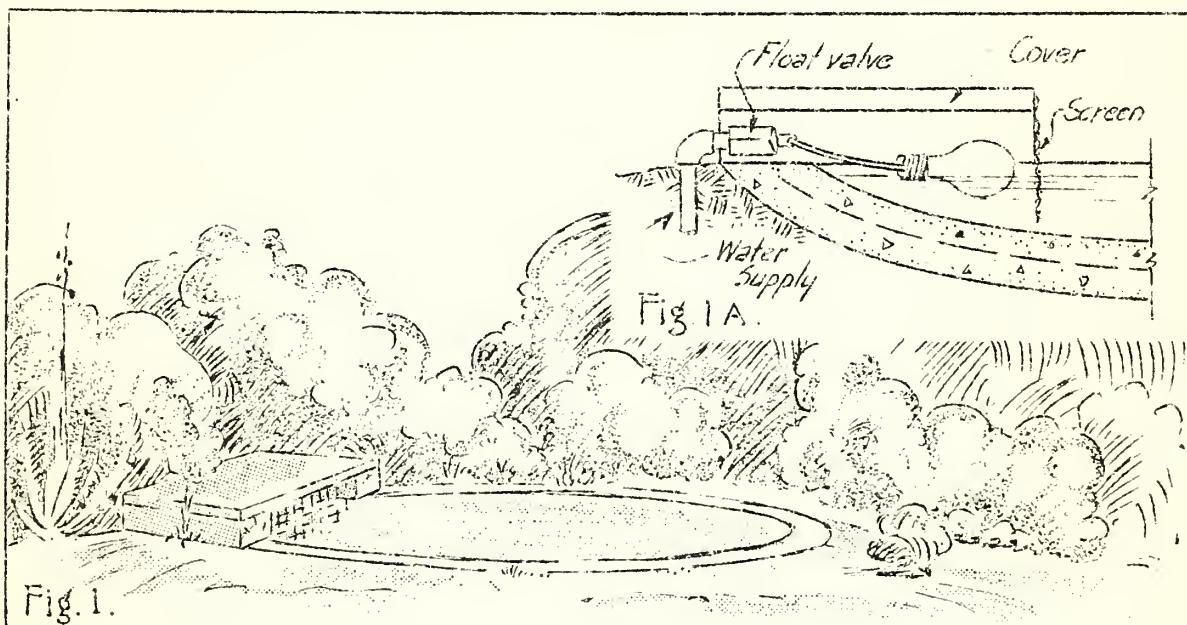


Figure 1. Illustrates a small reinforced concrete basin in use on some of the farms within project areas in the southern part of California. This type of watering station is particularly valuable where it is desired to furnish water for larger animals as well as for birds. The water supply in the basin is regulated by a small float valve of the type illustrated in Figure 1a. Detailed plans and specifications for constructing basin may be procured by applying at the nearest project office.



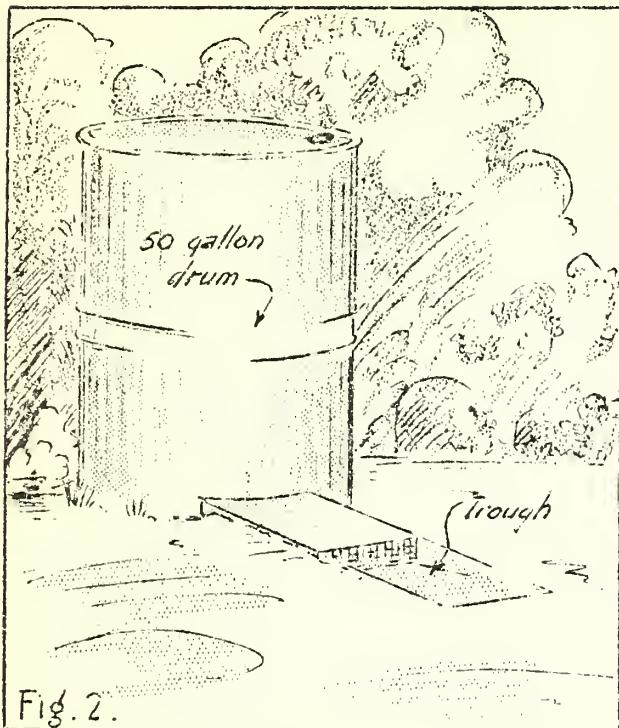


Fig. 2.

Figure 2. Illustrates a small size galvanized sheet metal basin primarily for use of quail and other birds. The basin is screened to exclude the use of water by mammals. The water for this type of basin may be supplied from a water main or supply tank (A 50 gallon drum or larger tank). The supply tanks should be placed near a roadway so they may be readily refilled from a tank wagon.

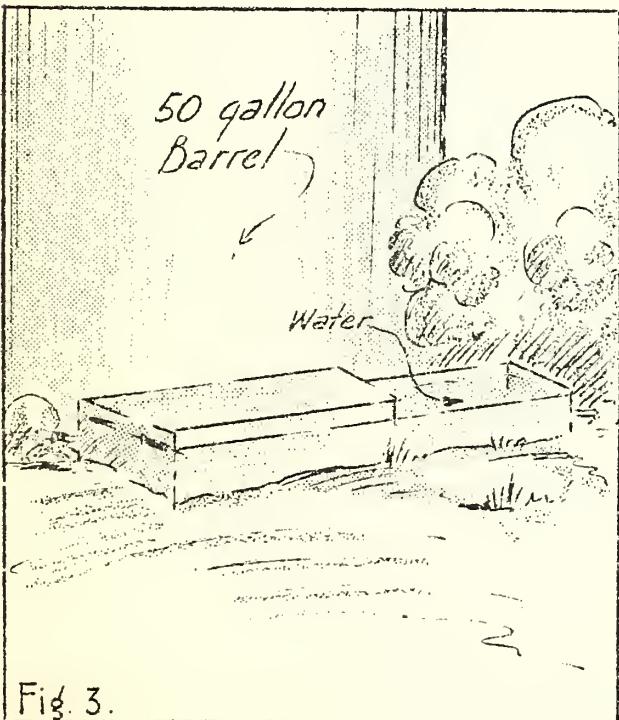


Fig. 3.

Figure 3. Illustrates a portable type supply tank. The water dispenser, constructed of a medium grade galvanized sheet metal, is soldered directly to a 50 gallon drum.

Note: The drinking basins should be placed adjacent to, but not directly under, a shrub or tree. Quail do not use the watering station so readily if placed too far from escape cover and doves may not use it at all if placed entirely beneath a tree.



USE OF FERTILIZERS IN EROSION CONTROL

By Jack Martin, Project Conservation Surveyor, Las Posas

Fertilizers are used for three primary purposes in erosion control. 1. To produce a fertile seed bed on badly eroded or unfertile eroding sites in order to facilitate agronomic erosion control. 2. To force a rapid growth of vegetation in the early stages so that a protective vegetative cover is obtained in the shortest possible time. 3. To increase the density of the vegetative stand to insure more adequate protection against erosion.

In order to determine which of a number of fertilizers, and what rate of application would best meet these purposes, fertilizer test plots were laid out on the Las Posas project, Ventura County, during the 1936-37 season.

The site was chosen on Huerhuero fine sandy loam, one of the least fertile, and most erodible soil types on the project area. Oats and clover (*Melilotus Indica*) were seeded with a drill, and fertilized with six different commercial fertilizers at rates of application of 200, 400, and 500 pounds per acre. The six fertilizers used were: Ammonium Sulfate, Cal Nitro, Ammonium Phosphate, Superphosphate, Muriate of Potash and Bat Guano.

On the basis of observations made at about monthly intervals, nitrogen was demonstrated to be the major limiting factor under particular conditions studied.

Where oats were fertilized a very definite response was apparent with the addition of either Ammonium Sulfate or Cal Nitro; Ammonium Phosphate also gave decidedly increased growth while the response to other fertilizer was less evident.

In general the nitrogenous fertilizer produced the best and quickest early season growth of oats affording best protective ground cover. At maturity yield studies indicated a growth two to three times greater on the plots of oats fertilized with 200 pounds of Cal Nitro and Ammonium Sulfate than on the unfertilized check plots.

The addition of fertilizers to clover (*Melilotus Indica*) resulted in only a very slightly increased growth over the unfertilized plots.

The above results are only from one season tests on a particular soil type and should not be taken as conclusive for all seasons and all conditions, but do substantiate the frequently recommended practice of applying fertilizers, particularly the nitrogenous forms, in establishing cover crops and other types of vegetation in erosion control.

THE COOPERATIVE AGREEMENT

By James B. Chapler, Erosion Control Practices Section

The Cooperative Agreement, which is the foundation and authority for all work done by the Soil Conservation Service in a soil erosion control area, is a contract between the United States and the land-owner and operator of the farm, covering a period of five years. In line with progress in other branches of the work of the Soil Conservation Service, the form of Cooperative Agreement now in use is a decided improvement over the earlier ones in that it is more complete, more definite and more easily understood.

The Cooperative Agreement in use at present consists of a standard form containing the general provisions and conditions, to which are attached the following items:

1. Conservation Survey Map, which shows the principal features of topography, soil types, present land use, approximate slope of the land and the degree of erosion. These data are indicated on the map by symbols, which are explained by an accompanying legend sheet;
2. Land-Use Map, showing the location, extent and acreage of the various fields, with symbols indicating the use of the land following the signing and approval of the Cooperative Agreement. Each field is given a number by which it is also designated in the written portion of the contract specifying its use and treatment. An accompanying legend sheet explains the symbols used on the map;
3. Plan of Conservation Operations, which sets forth in detail for each field as agreed, the use of the land, including cultural practices, rotation of crops and pasture and woodland management, and providing for installation of vegetation and mechanical measures for erosion control. This plan also contains an estimate of the amount of material required for the execution of the proposed work and specifies the items of materials, equipment and labor to be furnished, respectively, by the Government and the Cooperator;
4. Cropping Plan, showing the use of each field as agreed upon, covering the five-year life of the Cooperative Agreement, including the rotations of crops;
5. Range Management Plan, showing for each year and each field the number of animals to be grazed and the number of months such field is used. In contracts covering farms on which there is no pasture land or if the area of land so used is insignificant, this plan is omitted;
6. Crop Summary and Economic Survey, which, as indicated by the title, is a brief farm inventory. It is used as a guide in arriving at a plan for the best utilization of the farm and for statistical purposes. It may serve also as justification for expenditure of money for erosion control;
7. Summary and Estimate of Materials, in which the total amounts of the various kinds of materials called for in the Plan of Conservation Operations are tabulated, with an estimate of the cost.

